

FAST RESPONSE 3-D WINDS & STATE PARAMETERS ON THE HU-25 FOR ACTIVATE

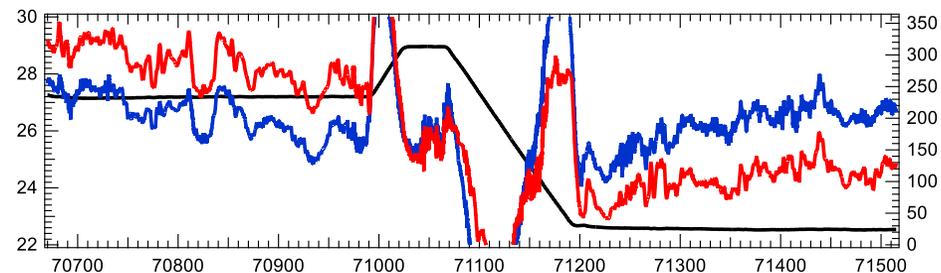
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Questions? Email Lee Thornhill
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TAMMS – Turbulent Air Motion Measurement System *or* 3-D Winds

- High resolution in situ measurements of three-dimensional winds (u , v , w , wind speed and direction), temperature, pressure, and dew point
- The raw data is recorded between 100 and 200 Hz and then averaged down to 20 Hz for the archive and post-mission analysis
- The differential pressures are measured at the nose of the Falcon (angles of attack and sideslip)
- Inertial/GPS data are provided from an Applanix 610
- State parameters and aircraft data are broadcast to the experimenters both on the plane and the ground every second in the standard IWG1 format
- Calibrations are done to account for the pressure defect and the heading offset and applied to the final data along with time lag corrections
- Aircraft inertial data are post-processed to reduce the error in positioning to less than 1m



Blue = corrections applied
Red = no corrections applied

Effects of correcting the wind speed for pressure defect and heading offset on a reverse heading



CURRENT ARCHIVE STATUS:

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2020 Data:

- Final data are in the archive

2021 Data:

- Preliminary data are in the archive
- Post-processing of the Applanix data have been done
- Final calibrations have been done
- Final data will include the above corrections and should be coming out soon

2022 Mission:

- No changes anticipated to the data system unless requested or needed

